

The Bureau of Reclamation (Reclamation) is expanding the scope of the San Luis Drainage Feature Re-evaluation to include land retirement among the alternatives for providing drainage service. This document is an addendum to the Plan Formulation Report (PFR) published in December 2002. It summarizes changes to the drainage disposal alternatives since December 2002, documents the development of new land retirement alternatives, and describes the additional land retirement alternatives to be evaluated in the Environmental Impact Statement (EIS).

1.1 PURPOSE AND AUTHORITY FOR RE-EVALUATION

The project purpose is to provide agricultural drainage service to the San Luis Unit (the Unit) and the general area, of which lands served by the San Luis Unit are a part, that achieves long-term, sustainable salt and water balance in the root zone of irrigated lands where drainage service is defined as managing the regional shallow groundwater table by collecting and disposing of shallow groundwater from the root zone and/or reducing contributions of water to the shallow groundwater table through land retirement. A long-term sustainable salt and water balance is needed to ensure sustainable agriculture in the Unit and the region. Figure 1-1 illustrates features involved in developing a salt and water balance.

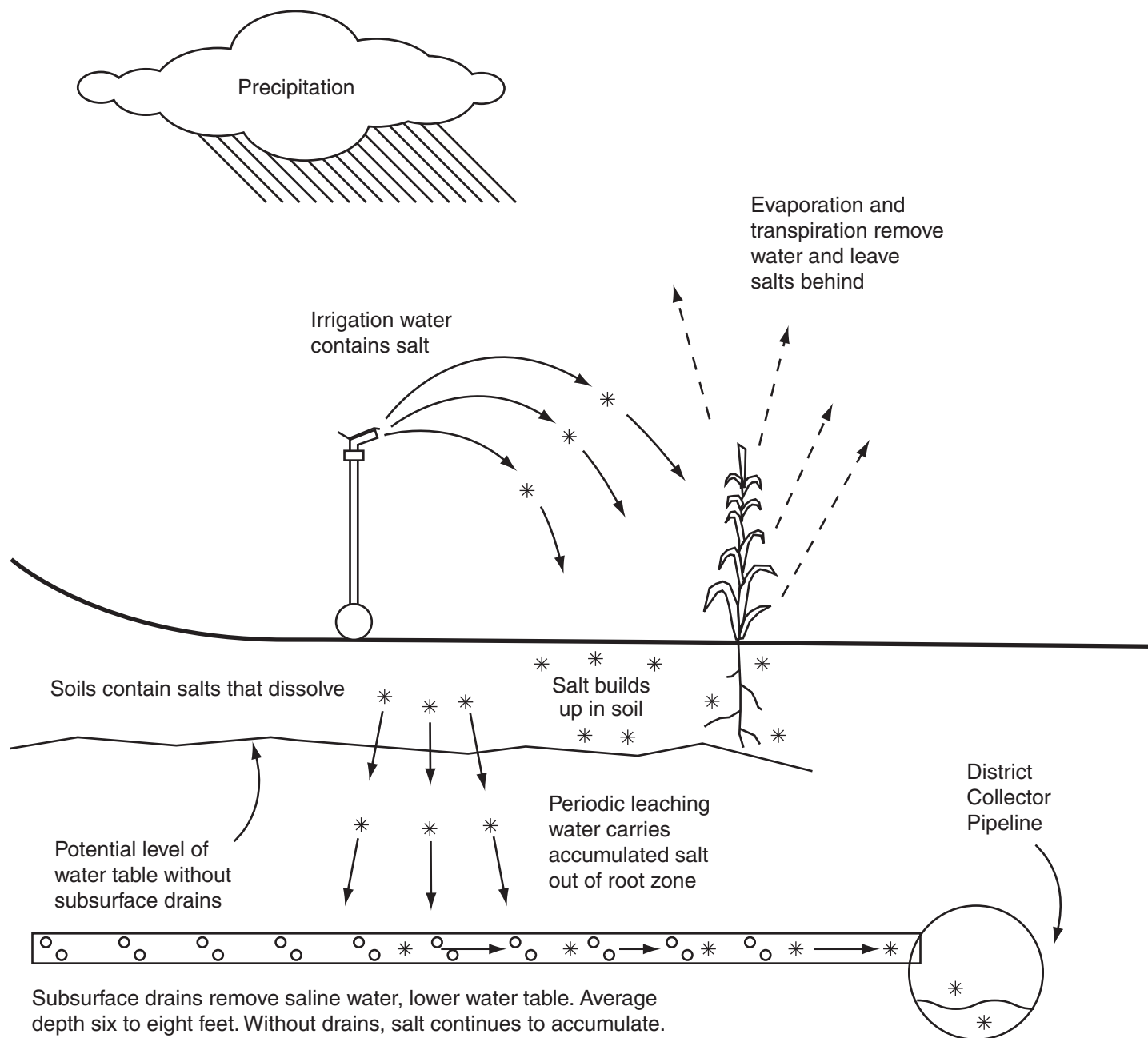
To meet this overall purpose and need, four related project objectives were used to develop the alternatives evaluated in the PFR:

- Drainage service will consist of measures and facilities to provide a complete drainage solution, from production through disposal, and avoid a partial solution or a solution with undefined components.
- Drainage service must be technically proven and cost effective.
- Drainage service must be provided in a timely manner.
- Drainage service should minimize adverse environmental effects and risks.

The proposed Federal action is to plan and construct a drainage system for the San Luis Unit. This action would meet the needs of the Unit for drainage service, fulfill the requirements of the February 2000 Court Order, and be completed under the authority of Public Law 86-488.

In February 2000, the U.S. Court of Appeals concluded that the Department of the Interior (Interior) must provide drainage service but held that Interior had the discretion to meet the court order with a plan other than the interceptor drain solution. In accordance with the court order, Reclamation developed a Plan of Action (April 2001; Reclamation 2001a) outlining its proposed efforts to provide prompt drainage service considering a variety of options.

- The first phase of the Re-evaluation, consistent with the Plan of Action, was the process of identifying a list of preliminary alternatives that meet the court's order to provide prompt drainage service to the Unit. The result of the first phase was the *Preliminary Alternatives Report (PAR)*, *San Luis Unit Drainage Feature Re-evaluation*, which was published in December 2001 (Reclamation 2001b). The alternatives described in the PAR meet the court order and use proven technology.



Note: Drainwater collected is transported for disposal or reuse.

LEGEND

- Indicates flow of water
- * Indicates salts

Source: Westlands Water District, May 2004

- The second phase of the Re-evaluation was the preparation of the *Plan Formulation Report (PFR)*, *San Luis Drainage Feature Re-evaluation*, which included the determination of the lands that require drainage service; the anticipated quantity and quality of drainwater for which Reclamation will need to provide service; the formulation, evaluation, and screening of the preliminary alternatives; the description of the final set of alternative plans; and the identification of a proposed action. The PFR was published in December 2002 (Reclamation 2002).
- The third phase of the Re-evaluation is a refinement of the components of the proposed action, additional engineering design, and completion of the environmental review of the proposed action and alternatives. The product of this phase is the EIS and the Record of Decision.

The 2002 PFR identified the In-Valley Disposal Alternative as the proposed action to provide drainage service. The In-Valley Disposal Alternative was compared to No Action and the three Out-of-Valley Alternatives and was selected in 2002 as the proposed action based on cost, implementation, and other environmental information available in 2002. Comparable cost data and other analyses are not available for all seven action alternatives (including the three land retirement alternatives), and no analysis or attempt is made in this addendum to either revise or affirm the identification of the proposed action presented in the 2002 PFR. The additional information and analyses are underway, and a proposed action will be selected and described at a comparable level of detail and analysis in the upcoming Draft EIS.

In addition to the In-Valley Disposal Alternative, No Action and three action alternatives were included in the 2002 PFR. Land retirement was considered in the 2002 PFR but excluded as a primary drainage reduction component of the Federal drainage service alternatives under consideration at that time because it does not meet the project purpose of “providing drainage service.” Land retirement is a measure that removes land from irrigated agricultural production, reducing the need for drainage service on remaining lands. However, as a result of public and stakeholder input, Reclamation has determined that it will broaden the scope of analysis to include land retirement as a major component of some of the action alternatives.

On February 5, 2004, Reclamation submitted to the Court an *Amended Plan of Action for Drainage to the San Luis Unit*. The Amended Plan of Action states that Reclamation will continue to refine and evaluate all five alternatives described in the PFR for inclusion in the EIS. Additionally, Reclamation will formulate alternative(s) that use land retirement as a method to control drainage need, by comparing costs, benefits, and impacts for alternatives with different amounts of land retirement.

1.2 SCOPE OF PLAN FORMULATION REPORT ADDENDUM

This addendum focuses on specific alternatives with large-scale land retirement: how they were developed, the context in which they were developed, and descriptions of them. The study area, as well as the areas needing drainage service, are described in Section 2. Section 3 describes the land retirement alternatives formulation and optimization process. This addendum presents updated estimates of drainage quality and quantity (presented in Section 4), both with and without land retirement, incorporating updated results of groundwater modeling. Section 5 describes all of the alternatives selected for evaluation in the EIS. For the alternatives carried forward from the PFR, changes that have been incorporated as a results of ongoing analysis are

highlighted in summary descriptions. For the land retirement alternatives, they are presented with sufficient detail to facilitate subsequent comparisons to the other action alternatives in the EIS.

The development of comparable cost data for all of the alternatives is underway but is not presented in this addendum. Comparable cost data for the Out-of-Valley Disposal Alternatives will be ready for the Draft EIS. Land retirement alternatives were formulated utilizing comparable data (environmental, implementation, and cost factors) for In-Valley Alternatives with land retirement. Comparisons are made to a refined In-Valley Disposal Alternative, which serves as a baseline for the development of the land retirement alternatives. The additional land retirement alternatives are evaluated only in relation to the In-Valley Disposal Alternative, not to the Out-of-Valley Alternatives. The rationale for this is the assumption that the reductions in drainage volume would not lead to greater efficiencies in conveyance and disposal such that Out-of-Valley Alternatives with additional land retirement would not be cost-effective compared to the original Out-of-Valley Alternatives on an acre-foot of drainage-disposed basis.

The Out-Of-Valley Disposal Alternatives have considerable costs associated with construction of conveyance facilities to the disposal locations. The primary benefit of land retirement is to reduce the quantity and improve the quality of drainwater for disposal. However, previous analysis in the 2002 PFR demonstrated relatively small cost savings when drainage flows were reduced for these Out-Of-Valley Alternatives due to the large fixed costs associated with right-of-way acquisition and pipeline construction. Previous analysis showed that the drainage service costs for the Out-of-Valley Alternatives were greater than for the In-Valley Disposal Alternative. The current analysis indicates land retirement is more expensive than the In-Valley Disposal Alternative. Therefore, land retirement would be an even less cost-effective substitute for drainage service for the Out-of-Valley Alternatives.